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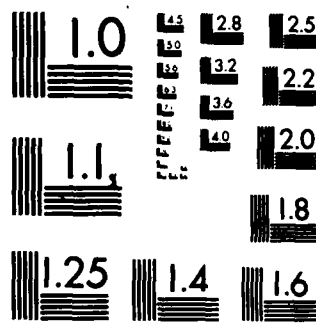
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A CULTURAL RESOURCES RECONNAISSANCE
OF THE ASAN FLOOD CONTROL STUDY AREA,
ASAN, GUAM

Pacific Studies Institute

January, 1980

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A CULTURAL RESOURCES RECONNAISSANCE OF THE
ASAN FLOOD CONTROL STUDY AREA,
ASAN, GUAM

by
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Prepared for the
U.S. Army Engineer Division, Pacific Ocean
Honolulu, Hawaii

Contract No. DACW84-79-C-0028
Mod. No. P00003

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Pacific Studies Institute
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Guam, Mariana Islands

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ABSTRACT

Members of the Pacific Studies Institute (PSI) conducted an archaeological and historical reconnaissance of the Asan Flood Control Study Area in Asan, Guam under Contract DACW 84-79-C-0028 (Mod. No. P00003) with the U.S. Army Engineer Division, Pacific Ocean, Honolulu, Hawaii. The project area encompasses the Asan and Calacag Rivers in Asan, and areas immediately adjacent that might be impacted by the proposed flood control project. The survey included both a literature search and a physical investigation of the study area.

As a result of the literature search and walk-through reconnaissance the potential for subsurface deposits of prehistoric material was clearly established. Test excavation, however, revealed no intact deposits of cultural material, suggesting that (1) as yet undiscovered prehistoric sites may be present in the uplands south of the project area, (2) site(s) previously existing within the study area were destroyed by the 1944 invasion of Asan by American forces, and/or (3) archaeological deposits which may exist in the study area are of such limited size that testing did not reveal them.

Based on the reconnaissance then, there is no evidence that the proposed project will have an impact on archaeological or historical resources in the Asan and Calacag River areas.

INTRODUCTION

This is a report of the archaeological and historical reconnaissance of the Asan Flood Control Study Area, Asan, Guam, under Contract DACW84-79-C-0028 (Mod No. P00003) with the U.S. Army Engineer Division, Pacific Ocean, Honolulu, Hawaii. Activities necessary for the completion of this survey were performed by members of the Pacific Studies Institute (PSI), Agana, Guam from 11 October 1979 to 10 November 1979 according to the Scope of Work of 13 July 1979, revised on 13 September 1979.

The investigation of the survey area was divided into two phases: First, a search was conducted to locate any written materials pertinent to the culture history of the land using primarily the archives of the Micronesian Area Research Center at the University of Guam and the technical library of the Pacific Studies Institute. Second, a physical survey of the land within the study area was conducted in two parts. Part one was a walk-through reconnaissance of the survey area and part two involved subsurface testing by shovel and with the use of a backhoe.

The purpose of the survey was to determine the presence or absence of any archaeological and/or historical remains within the project boundaries or any immediately adjacent areas, and to determine whether such cultural resources may be eligible for inclusion in the National Register of Historic Places. In addition, the survey was to determine how to avoid or mitigate any adverse impacts to historic properties within the survey area, thereby assisting the U.S. Army Corps of Engineers in complying with Section 106 of the National Historic Preservation Act of 1966 as amended (P.L. 89-665) and related authorities.

Description of the Survey Area

This cultural resource reconnaissance was conducted in the area of the Asan and Calacag Rivers in Asan, a community on the west coast of Guam, Mariana Islands (see Figures 1, 2, and 3).

The Asan and Calacag Rivers flow northward from the hills which form the southern border of the village, through ravines deeply cut into the basalt substrate (Figure 4). North of the hills the streams enter the project area just above the narrow coastal plain. The plants dominating this area reflect the defoliation which resulted from the allied invasion in 1944 with tungan-tangan (Leucaena leucocephala), hibiscus (Hibiscus tiliaceus), and kamachile (Pithecellobium dulce) accounting for about 80 percent of the ground cover. In the upland area the land has recently been used for horticultural purposes as indicated by the presence of papaya (Carica papaya), coconut palm (Cocos nucifera), cassava (Manihot sp.), taro (Alocasia macrorrhiza), banana (Musa sp.), and bamboo (Bambusa vulgaris).

At the time of this survey, however, most land was fallow or being used as pasturage, and the stream beds were clogged with overgrowth (Figure 5).

A few hundred yards north of the uplands the Asan and Calacag Rivers enter the flat coastal plain and join to form a larger stream. At the area of this confluence the rivers pass through the residential section of Asan known as Calacag (Figure 6). The streams are bordered by houses and yards from just north of the uplands to Marine Drive. Plants dominating the area reflect

its residential nature as the stream banks are lined with bamboo and grasses, but the ubiquitous tangen-tangan, hibiscus, and kamachile are still present in abundance (Figure 7). In addition, a single langasat (Barringtonia racemosa) has been noted in the area where the streams join. As indicated in the U.S. Fish and Wildlife Planning Aid Letter (Taylor 1979), this tree is considered rare although it is not yet on the U.S. Department of the Interior's endangered species list.

From Marine Drive north to the high water mark of the Philippine Sea the Asan River reaches grade and flows sluggishly through old beach deposits. The river banks in this area are choked with tangen-tangan, hibiscus, and grasses (Figure 8). Although this section of the coast was utilized as a residential area in the recent past, it is presently unused, and its overgrown nature makes penetration difficult.

Culture History

The culture history of the land to be affected by the Asan Flood Control project includes Guam's prehistoric and historic periods. Our knowledge of the prehistoric period is based primarily upon written reports of archaeological investigations on Guam and on comparative data from other areas in Oceania. Information about the historic period is based on written materials and interviews with local informants and is included here for a better understanding of the historic events which have had an effect on the prehistoric remains at Asan.

Archaeological investigations in the Mariana Islands have been limited, with the majority of the research occurring during the last two decades (Dilatush 1950; Marck 1977; Osborne n.d., 1961; Pellet and Spoehr 1961; Reed 1952; Reinman 1977; Spoehr 1957; Takayama 1971, 1976; Thompson 1977; and Thompson 1932).

Spoehr established a two phase chronology based upon his work on Rota, Tinian, and Saipan in which the earlier period, the pre-latte phase, was characterized by Redware pottery, a red-slipped and well made ware dated at 1527 B.C. The second or latte phase was characterized by stone uprights (latte) and Plainware pottery, a thick, more crudely made ware dated at about 845 A.D.

Reinman's (1977) systematic survey and excavations on Guam support Spoehr's general findings; however, there is some difficulty in applying Spoehr's ceramic typology as Guam's Red and Plainware varieties are more difficult to differentiate. Reinman suggested utilizing an analysis of the temper for seriating ceramic ware from Guam and established a distinction between Calcareous Sand Temper (CST) and Volcanic Sand Temper (VST).

The settlement pattern data for Guam seem to indicate that most villages were located near shore with occasional riverine and upland settlements. Reinman indicates that interior sites may have been settled more recently and have developed during the early historic period when there were numerous hostile encounters with the Spanish. Recent archaeological surveys of the Ugum and the Babulao drainages, however, suggest that certain interior sites may have been associated with horticulture activities (Dye, Price, and Craib 1978).

Unfortunately, Reinman's 1965-66 investigations and subsequent surveys sponsored by the Government of Guam and National Park Service have produced minimal information about the prehistory of the Asan area. That the village has probably been inhabited from as early as the latte period is suggested by Plainware sherds uncovered during recent construction activities in Asan.

The earliest historic reference to the village of Asan is from 1683, early in the Spanish period, and is made by Father Francisco Garcia in his work on the life of Father San Vitores (Garcia 1683).

In a later study by Safford (1905), the Asan River area is mentioned as an ideal location for the cultivation of wet rice. At this time the village was located on the raised strand area along the coast of Asan Bay. Behind the residences ran the Agana-Agat Road, and south of the road were rice paddies which stretched from Adelup to Asan Points, bordered on the south by the hills behind the coastal plain. This settlement/land-use pattern continued to the time of the American landing in 1944 (Nolan 1979).

On July 21, 1944 American ships took up station off the coast of Guam and began "softening" Asan for invasion. What was not destroyed by the artillery and bombing was almost completely eliminated during the subsequent invasion. Guamanians present during and after the attack reported that smoking, red earth was all that remained in the village area. From its rubble the community of Asan was rebuilt according to its present plan in the remaining months of 1944.

According to local informants, after the American invasion the Japanese dead in the Asan area were collected and placed into the trenches they had dug as part of their coastal defense system. When the bodies were deposited in these make-shift graves, bulldozers filled the trenches and subsequently graded the Asan area in preparation for post-invasion construction. Since the graves were unmarked, local people as well as PSI investigators were unable to locate them exactly. In front of the Asan Catholic church a marker has been erected, though, to the Asan citizens who were killed during the war.

Since 1944 Asan has grown and changed in some respects, but time has not yet removed the physical scars of the invasion. To commemorate the role the site played in the American reconquest of the Pacific, the National Park Service will be developing land on all sides of the village of Asan as a national historic park.

Expectations

As a result of the review of written information pertinent to the culture history of the survey area, several factors strongly indicated the potential presence of prehistoric material.

a. Prehistoric settlement pattern studies (e.g., Thompson 1977) indicated that a raised beach strand behind the high water mark is a preferred site location, especially when a coastal plain or depression lies inland from the strand. This depression or plain may then be used for horticultural purposes such as the cultivation of taro, rice, or other wetland crops which is not possible when the strand abuts the interior upland directly. In

light of the topographic configuration of Asan, then, it may be expected to have been an ideal village location.

b. Information from the literature pertinent to the habitation of Asan (and indirectly of the survey area) show that the site has been a village since at least 1683.

c. During the excavation of a culvert to improve drainage in the Asan village area, a portion of an archaeological site was uncovered (see Figure 3 for location). Buried by about five feet of overburden composed of limestone rubble fill and Asan clay, human skeletal material, Marianas Plainware sherds, and chert flakes were discovered in a midden deposit. The discovery of the deposit strengthens the assumptions made in parts a. and b., and indicated that the destruction resulting from World War II may not have impacted sites in all areas of Asan.

RECONNAISSANCE SURVEY

Field Methods

Field work for this project began with discussion between PSI staff and staff members of the Guam Department of Parks and Recreation, members of the Guam office of the National Park Service, and the Commissioner of the community of Asan concerning the culture history of land in the survey area. Throughout the field work period close contact was maintained with representatives of the above agencies and offices to ensure the fullest cooperation and exchange of information on the survey area.

The physical investigation of the study area began with a walk-through reconnaissance to determine the most potentially profitable areas for subsurface testing. The reconnaissance consisted of the surveyor and field assistant walking transects parallel to the Asan and Calacag Rivers from their entrance to the survey area to the reef flat 30 meters offshore north of the river mouth. In addition, one transect was walked from the coast to the hills on the southern border of the project area in the stream beds of each river (Figure 9).

The second part of the physical survey consisted of subsurface testing to determine the presence or absence of cultural material within the project area. This testing was accomplished by shovel excavation in the old beach deposit north of Marine Drive, and backhoe testing in both areas north and south of the road (locations indicated on Figure 9). In the shovel test a 0.5 by 1 meter rectangle was excavated in arbitrary 0.1 meter

levels to a depth of over one meter and the back dirt was screened for cultural material. Backhoe testing consisted of the operator's excavation of a hole the width of the bucket (about 1 meter) and the length of the arm (about 3 meters) from the surface to the water table or to a total depth of 3.5 to 4 meters, which represented the maximum extension of the backhoe's bucket and arm. The excavation was monitored by the surveyor, who was observing the soil profile as it was exposed and the backdirt as it was removed. As is common with this type of testing, if a midden deposit or artifact bearing layer is struck, the backhoe is shut down and the stratum is excavated by hand.

After the subsurface testing, the final phase of the field work was carried out, namely, the collection of a sample of artifacts from the reef flat at the mouth of the Asan River. This was accomplished by locating one two-meter square on the east and one on the west side of the mouth of the river equidistant from the shoreline. After the location of the squares, a 100 percent sample of the cultural material they contained was collected (location of the squares is indicated in Figure 9).

Survey Results

The walk-through reconnaissance survey in the project area confirmed the assumption made as a result of the literature review and interviews with local informants, that the destruction caused by the invasion of Asan in 1944 had completely eliminated any surface deposits of cultural material which may have existed before that time. As a result of the transect walked in the rivers,

Marianas Plainware sherds were discovered in the stream beds at the rate of about two sherds per square meter from the river mouth to the confluence of the two streams. Above this point sherds decreased sharply in frequency to about one sherd in ten meters at the southern limit of the project areas. The density was slightly higher in the Asan and lower in the Calacag branches.

In addition, between the confluence of the two streams and Marine Drive a deeply buried beach deposit has been exposed in a number of places by the river. Although no artifacts were observed in the deposit (which is entirely below the surface of the stream and approximately 3 meters below the surface of the ground), it is similar to the deposit in which the cultural materials exposed by the culvert construction mentioned earlier were found.

No artifact-bearing strata are exposed in the river banks above the confluence of the streams.

Because of the density of the pottery discovered in the stream bed, and the exposure of the buried beach deposit by the stream in certain areas, subsurface tests were located so that the area between the coast and the confluence of the two streams would receive the most attention.

Test number 1 was a shovel test located between Marine Drive and the coast (see Figure 9 for the exact location). From the surface to a depth of 1 meter the excavation revealed only Shioya soils (Tracey, et al 1964), mixed with both prehistoric and modern cultural material (see Appendix for selected profile descriptions).

Tests 2 and 3 were backhoe tests in the same area with the same results as in Test 1 regarding the location of cultural material. Although five Plainware body sherds were discovered in the tests, the nature of the deposits indicates that from the surface to the water table the area north of Marine Drive is disturbed and intact deposits are unlikely.

Tests 4 and 5 were backhoe excavations in the area between Marine Drive and the confluence of the Asan and Calacag Rivers. Test 4 was excavated from the surface to the coral substrate (at a depth of 2.4 meters), but no cultural material was recovered. At a depth of 1.3 meters the buried beach deposit was encountered, but it lacked the high density of bivalves and other edible shell fish remains and the dark staining which is commonly associated with midden deposits (see Appendix for description, and Figure 10 for a photograph of Test 4).

The results of Test 5 were similar to those of Test 4. At a depth of approximately 2 meters the beach deposit which is visible in the stream bed was encountered, but again it lacked cultural material and the shellfish and organic staining common in midden deposits.

Tests 6 and 7 were also backhoe excavations. In both of these tests the backhoe was unable to reach the water table, the depth to which the machine was capable of reaching being only 3.5 to 4 meters. Both these tests revealed only Inarajan clay below a relatively thin veneer of recently deposited material. No cultural material was located in either test (Figure 11).

The final phase of the field work was the collection of artifacts from two two-meter squares on the reef flat north of the Asan River.

Square one, located on the western side of the berm to the north of the river yielded ten glass bottle fragments, eight unidentified metal fragments, four fragments of modern ceramic material (two from plates and two from ceramic tiles), three small fragments of cement, and two body sherds of Marianas Plainware.

Square two yielded twenty glass bottle fragments (two with Japanese characters), seven unidentified metal fragments, four modern ceramic fragments (one a small bathroom-type tile), one unworked quartz fragment, and ten Marianas Plainware body sherds.

The longshore current in the area of the river mouth was observed to be from west to east, which increases the probability that the artifacts on the reef flat are indeed being deposited by the river.

Discussion

The fact that an examination of the ground surface in the project area revealed no intact cultural material from before 1944 is not surprising. In light of the density of the Plainware sherds offshore and in the river bed, and the fact that midden deposits have been exposed on what must have been the same buried beach strand east of the survey area, it is surprising that the subsurface tests did not reveal intact cultural deposits in the study area. If the stream is not eroding a subsurface cultural

deposit, then some other agency must be responsible for the Plainware density and distribution in the river channel and on the reef flat. From a previous study it is known that the hilly interior of the island was also a relatively common site area late in the latte phase of Guam's prehistory (Dye, Price, and Craib 1978).

If, for example, a site or sites exist south of the project area in the uplands behind the Asan plain, then they may be contributing cultural material through runoff to the stream beds. Assuming that upland sites are responsible for the pottery in the stream beds, however, one might expect a higher density of material to occur above the confluence of the streams. That this is not the case may be a flaw in this assumption, but it must also be kept in mind that it is not until their confluence that the streams near grade and begin to drop their heavier burdens. It may be that the greater density in this area is simply a reflection of the reduction in the carrying capacity of the streams.

A second alternative is that the expected site did exist in the old beach strand deposit and was destroyed in the invasion. Thus, the material found in the streams today result from the erosion of unconsolidated or non-intact deposits which were mixed by the bombing of Asan. This scenario also explains the lack of Asan clay in the survey area. As was pointed out in a previous section, historically the survey area had been used for rice paddies before the war, but the dark layer of Asan clay, high in organic matter, which should be found in this area is absent. In

the area of the culvert construction east of the project, it is present as it should be over the old strand deposit in which the cultural material was found.

Finally, a third alternative may be that archaeological deposits do exist in the survey area which are so limited in area that the subsurface testing did not reveal them. This third hypothesis does not seem to be as well motivated as the first two, however, since deposits of such a limited size are quite uncharacteristic of coastal sites so far discovered (Reinman, 1977).

As of now it is not possible to say which of the above hypotheses are responsible for the distribution of pottery observed in the survey area, or if some other factor(s) should be considered. Only a more thorough investigation of the Asan area will allow us to evaluate the extent and importance of any existing subsurface deposits.

SUMMARY AND CONCLUSIONS

Impact of the Proposed Project on Archaeological and Historical Resources

During the survey of the land to be affected by construction in the Asan Flood Control project, no intact cultural materials from before 1944 were observed on the surface. In addition, no subsurface deposits of intact cultural material were located by test excavations. Pottery fragments identified as Marianas Plainware or Volcanic Sand Temperware which are found in the river bed and on the reef flat are without context.

Based on the reconnaissance survey, then, there is no evidence that the proposed project will have an impact on cultural resources in the Asan and Calacag River areas.

Recommendations

Although subsurface testing did not reveal any intact cultural deposits within the survey area, the possibility exists that such deposits may be encountered during project construction. It is the recommendation of the Institute, therefore, that a qualified archaeologist be present during the excavation of the channel to prevent destruction of any cultural deposits which might be unearthed.

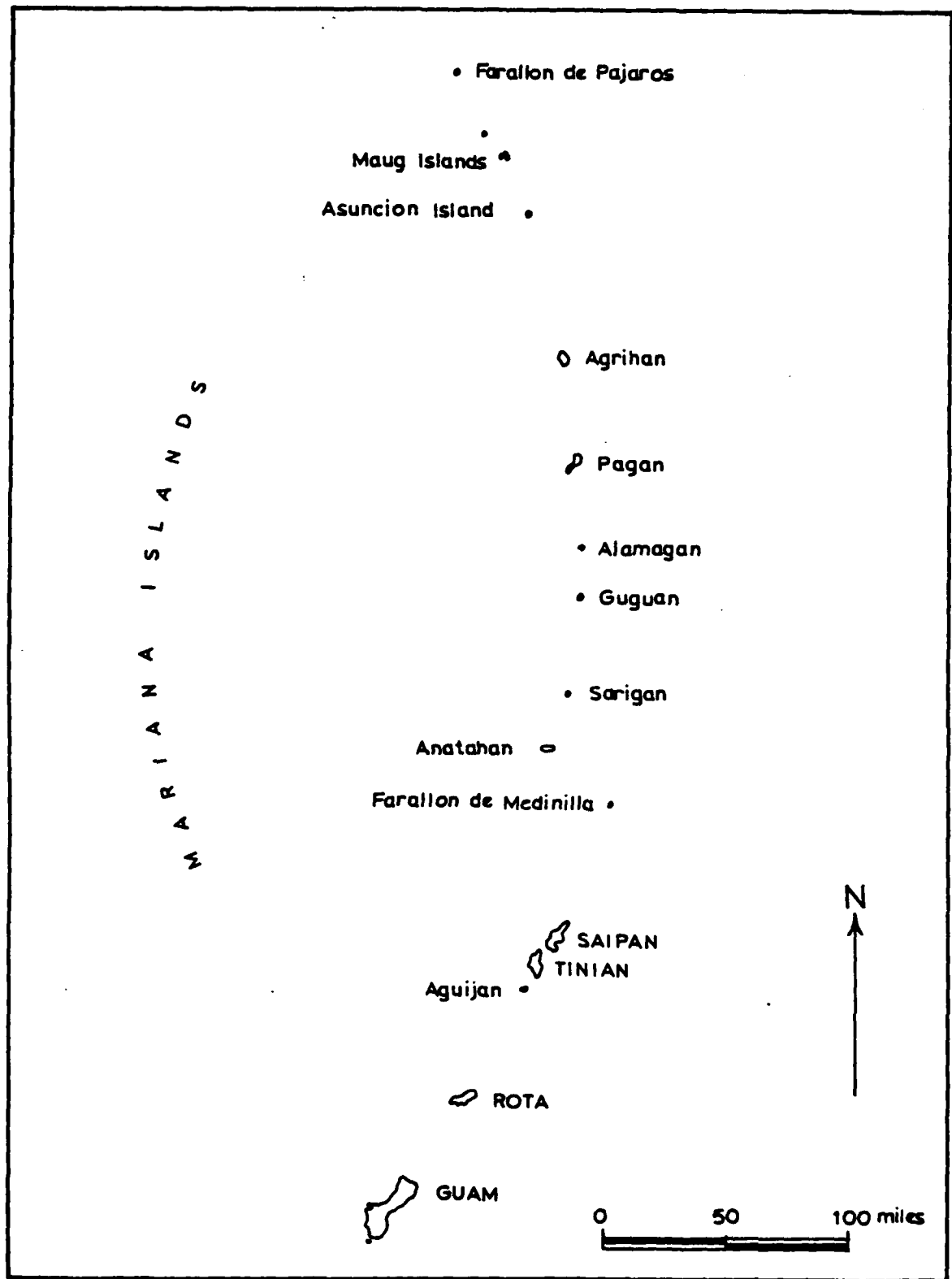


FIGURE 1. THE MARIANA ISLANDS

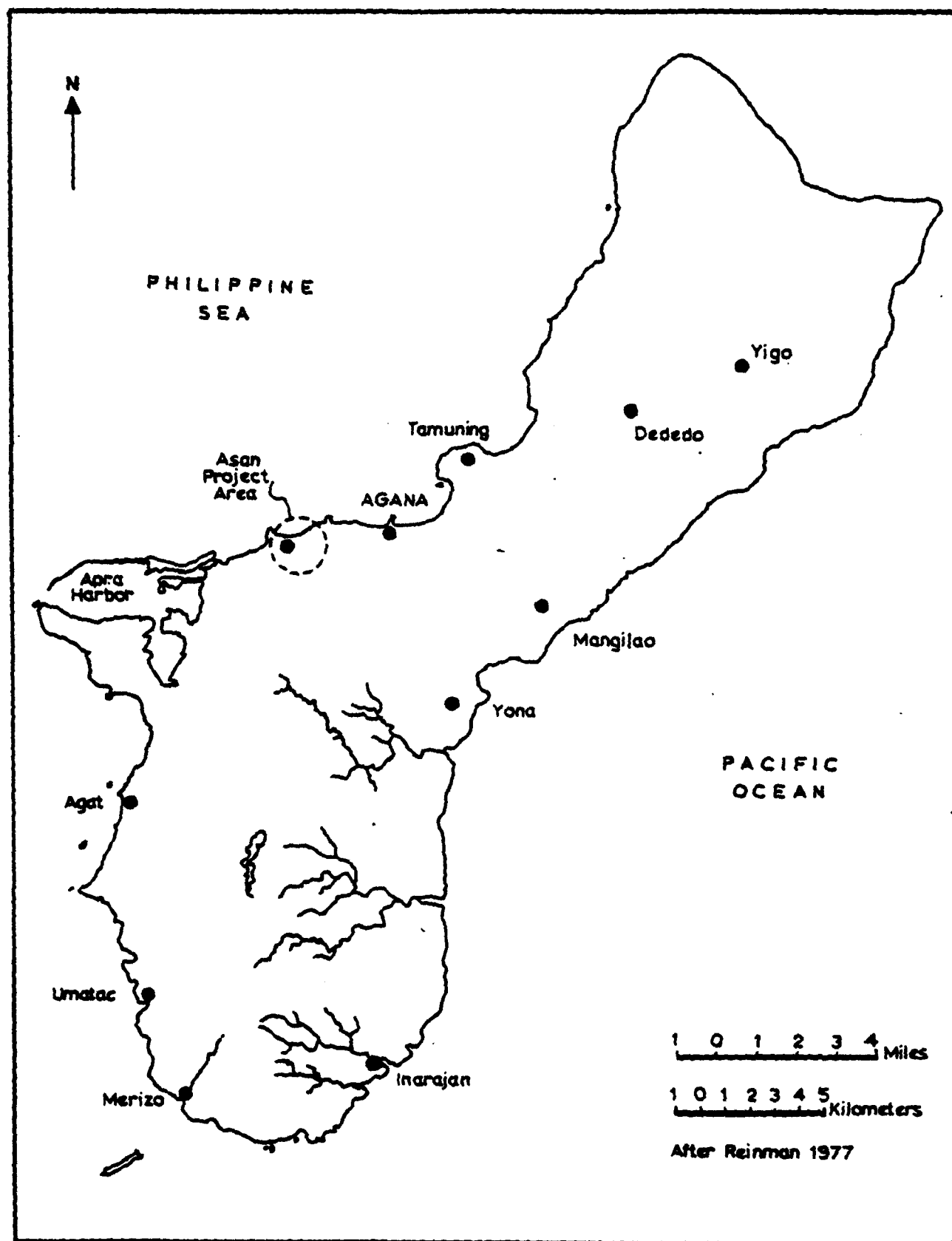


FIGURE 2. ISLAND OF GUAM

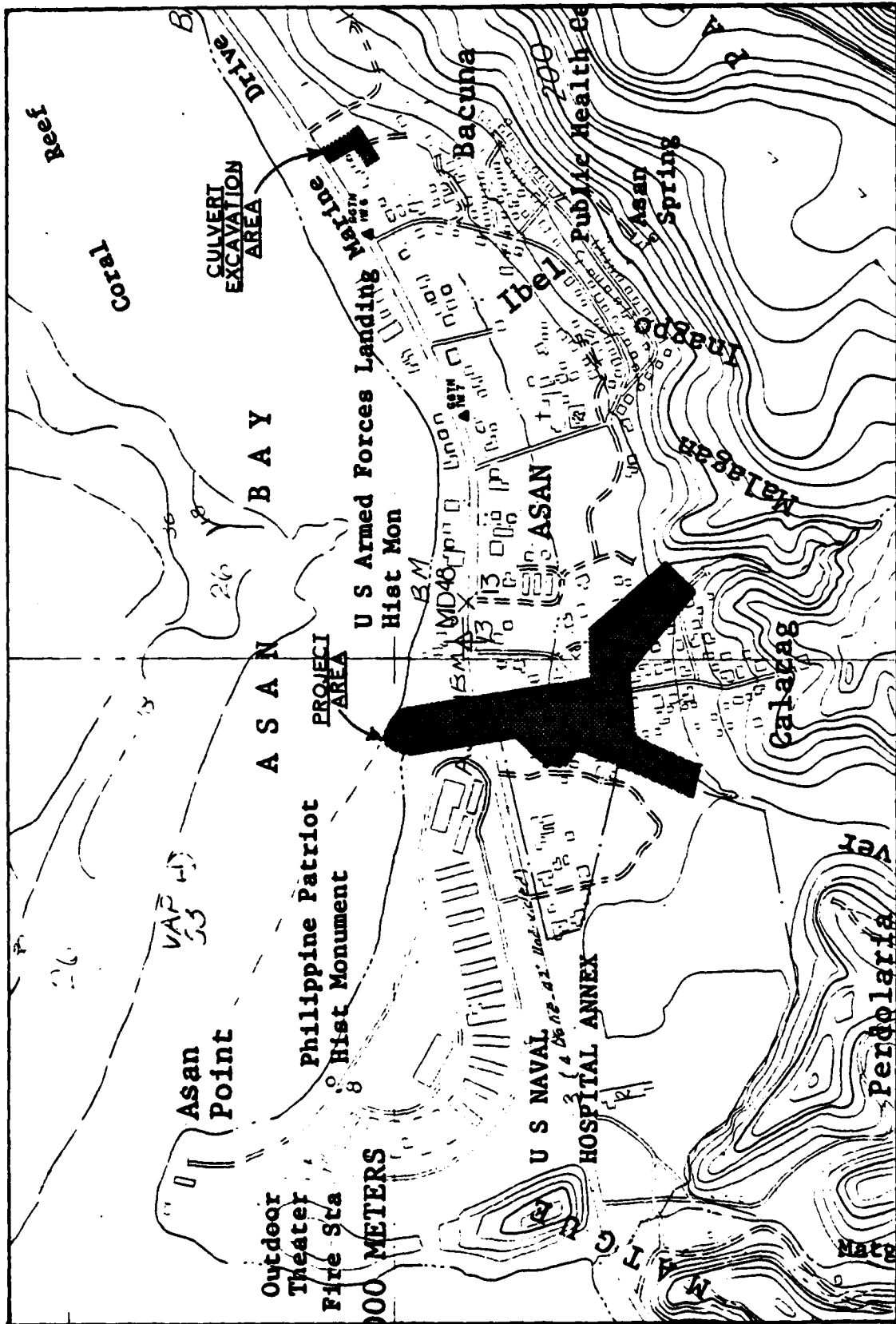


FIGURE 3. MAP OF ASAN INDICATING THE PROJECT AREA AND THE AREA OF CULVERT EXCAVATION



Figure 4. Asan Village and the Hills Bordering the Survey Area



Figure 5. Post-war Seabee Footbridge Over the Calacag River
Near Its Entrance to the Project Area



Figure 6. The Calacag Area of Asan. The River Flows
Behind the Houses in the Foreground

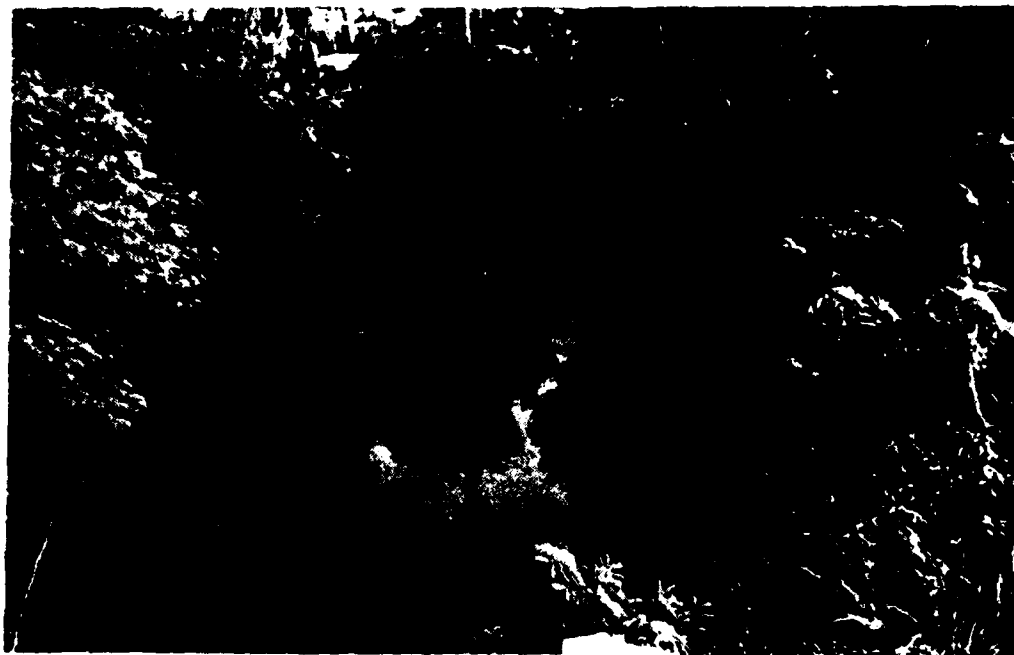


Figure 7. Asan River South of the
Marine Drive Bridge



Figure 8. Asan River North of the
Marine Drive Bridge

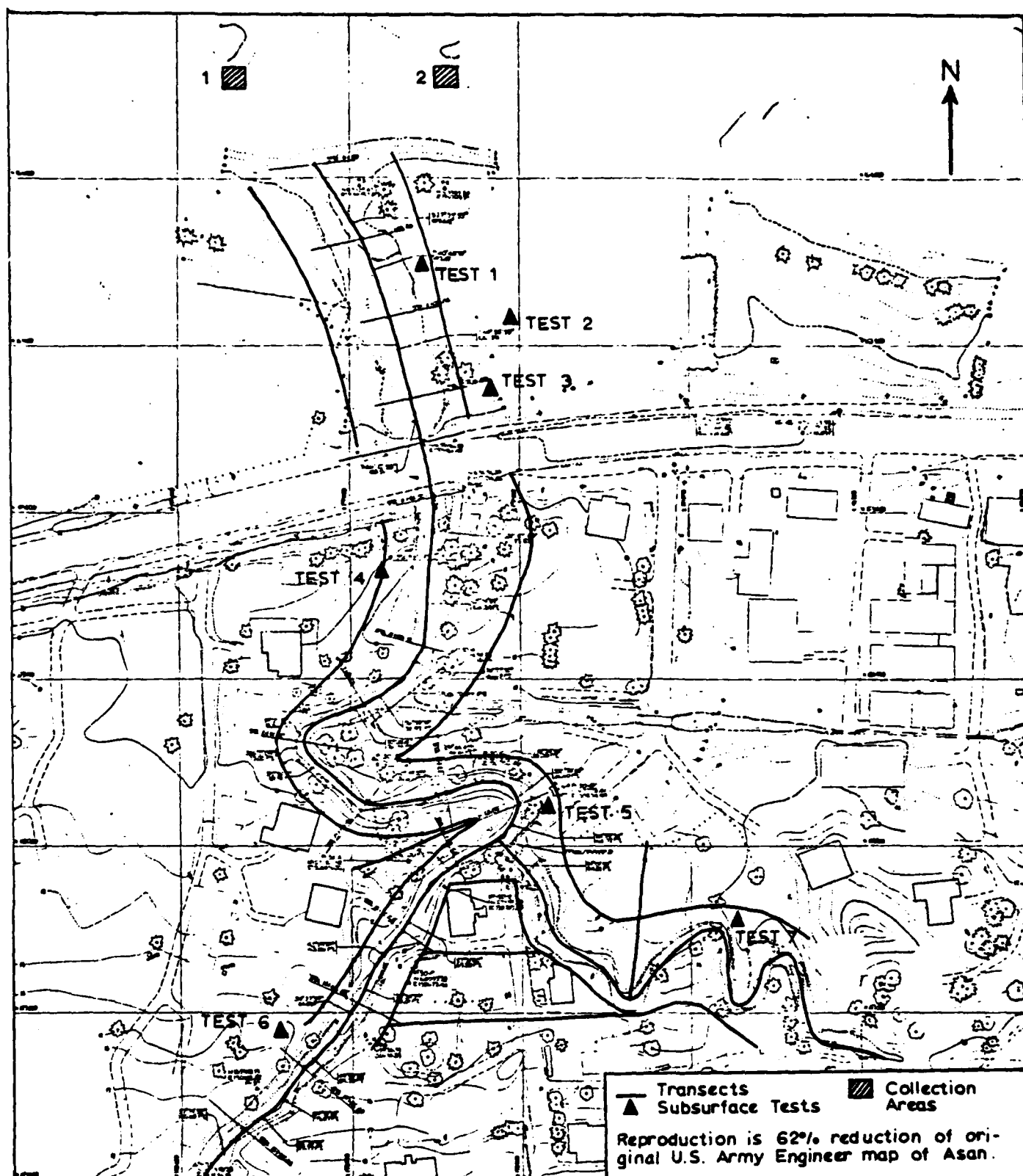


FIGURE 9. ASAN PROJECT AREA SHOWING THE LOCATION OF SUBSURFACE TESTS AND TRANSECTS



Figure 10. Excavation for
Subsurface Test No. 4



Figure 11. Excavation for
Subsurface Test No. 6

APPENDIX

DESCRIPTION OF SELECTED SOIL PROFILES
RESULTING FROM SUBSURFACE TESTING

Depth (in meters)	Soil Description	Cultural Material
<u>Test No. 1</u>		
0.00 - 0.12	Dark brown (10YR 4/3) sandy loam, friable when moist, loose when dry, occasional coral pebble inclusions	Modern debris (unidentified glass, metal, and bone fragments), unidentified bivalve shell fragments, one Marianas Plainware body sherd
0.12 - 0.34	Pale brown (10YR 6/3) loamy calcareous sand, friable to loose, occasional coral pebble inclusions	Modern debris, occasional charcoal
0.22 - 0.27	Ash lens	No inclusions
0.34 - 0.56	Dark yellowish brown (10YR 4/4) loamy sand, friable to loose, occasional coral pebble inclusions	Modern debris
0.56 - 0.63	Pale brown (10YR 6/3) loamy sand, many coral pebble inclusions	Modern debris
0.63 - 0.85	Light yellowish brown (10YR 6/4) sand, partially concretized, many calcareous concretion inclusions	Modern debris
0.85 - 1.00	Dark greenish grey (5GY 4/1) calcareous sand; much ash	Modern debris, occasional charcoal
<u>Test No. 4</u>		
0.00 - 0.44	Dark reddish brown (5YR 3/2) clay loam, friable to hard when dry, sticky to plastic when moist, few inclusions	Modern debris

Depth (in meters)	Soil Description	Cultural Material
<u>Test No. 4 cont'd</u>		
0.44 - 1.32	Red (2.5YR 5/6) alluvial clay (Inarajan), plastic when moist, friable to hard when dry, some brown mottling, occasional limestone pebble inclusions	One Marianas Plainware body sherd, modern debris
1.32 - 2.00	Pinkish grey (7.5YR 7/2) calcareous sand, partially concretized, many coral fragments, foraminifera, small mollusk and bioclastic material	No cultural material
2.00 - 2.40	Light blue grey (5B 7/1) calcareous sand, partially concretized, foraminifera, small mollusk and bioclastic material inclusions, dark blue grey (5B 4/1) clay inclusion	No cultural material
2.50	Coral bedrock	
<u>Test No. 6</u>		
0.00 - 0.79	Pinkish white (7.5YR 8/2) sandy loam, many limestone pebble to cobble inclusions (limestone fill)	No cultural material
0.70 - 3.50	Red (2.5YR 5/6) alluvial clay (Inarajan), plastic when moist, friable to hard when dry, some brown mottling, no inclusions	No cultural material

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